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December 9, 2009

Ms. Lynne S. Stella  
Assistant Director,  
Environmental Engineering Services  
General Growth Properties, Inc.  
110 N. Wacker Drive  
Chicago, IL 60606

**Subject: Groundwater Monitoring Wells Investigation, Sampling and Capping  
The Boulevard Mall  
3528 South Maryland Parkway  
Las Vegas, NV 89109**

Dear Ms. Stella:

TRC Solutions, Inc. (TRC) was contacted by Boulevard Associates on November 11, 2009 to investigate, sample and cap three groundwater monitoring wells located at The Boulevard Mall, Las Vegas, Nevada. This letter report describes the environmental work conducted and summarizes the results of the groundwater monitoring effort.

## **SITE LOCATION**

The Boulevard Mall is a mall property located at 3528 South Maryland Parkway, Las Vegas, Nevada, within Section 14, Township 21 South, Range 61 East of Mount Diablo Base and Meridian. The Boulevard Mall is a 1.2 million square feet shopping center on Maryland Parkway between Desert Inn Road and Twain Avenue, north of the McCarran International Airport and east of Las Vegas Boulevard. The location of The Boulevard Mall is shown on Figure 1.

## **GROUNDWATER MONITORING WELL INVESTIGATION AND CAPPING**

On November 13, 2009, TRC staff located and surveyed the conditions of three groundwater monitoring wells located in the west parking area of The Boulevard Mall (Mall) along Maryland Parkway. TRC has no information as to when the wells were

installed, why, or by whom. Because the wells were unmarked and well logs were not available, the wells were re-labeled as EMW-1, EMW-2 and EMW-3 to facilitate the groundwater sampling process. The well locations are shown on Figure 2.

All three wells were found to be in fair condition. The wells had been completed with flush-mount, traffic-rated well covers and 4-inch diameter rigid polyvinyl chloride (PVC) well casings.

The wells were cleaned out and capped with locking Torquer caps. Well EMW-1 was slightly buried/paved over during past construction work and TRC removed a small amount of asphalt to uncover the well. Once uncovered, the well casing was trimmed to fit the locking cap. All three wells had been previously uncapped/locked.

## **GROUNDWATER MONITORING WELL SAMPLING**

Static fluid levels and total depths of the wells were measured prior to purging and collecting groundwater samples. Wells EMW-1 and EMW-3 were found to be dry; groundwater was measured at 20.67 feet-below-ground surface (ft-bgs) in Well EMW-2. The total depths measured in wells EMW-1, EMW-2 and EMW-3 were 16.58 ft-bgs, 24.47 ft-bgs, and 17 ft-bgs, respectively.

Because the standing water in a well may not represent in-situ ground-water quality, stagnant water is typically purged from the well prior to sample collection. TRC staff purged and sampled Well EMW-2 based on the conventional three-well casing volume purge method as outlined in the "Resource Conservation and Recovery Act (RCRA) Ground-Water Monitoring: Draft Technical Guidance," published by the Office of Solid Waste, United States Environmental Protection Agency (USEPA), in November 1992. Well EMW-2 was purged using a disposable polyethylene bailer and the well was purged dry after three gallons of stagnant well water were evacuated. One groundwater sample was collected immediately after the well had recharged.

The groundwater sample collected was emplaced into three pre-cleaned, hydrochloric acid preserved, volatile organic analysis (VOA) vials. The three VOA vials were labeled as sample "EMW-2", placed in an opaque, iced cooler and delivered under chain-of-custody to Veritas Laboratory, a Nevada-certified laboratory for analysis. The sample collected was analyzed for volatile organic compounds (VOCs) per USEPA Method 8260B.

Field parameters including pH, specific conductivity, temperature, dissolved oxygen and oxidation reduction potential of the groundwater were monitored and measured during sample collection. The field measurements are shown on Table 1.

## **FIELD OBSERVATION AND ANALYTICAL LABORATORY RESULTS**

VOCs were not detected in the groundwater samples collected from Well EMW-2. Laboratory quality control data and laboratory method blank test show that the analysis run was completed within acceptable industry standard. A summary of the analysis is shown on Table 1. The analytical laboratory report is included in Attachment 1 of this report.

Respectfully submitted,



Yun Wang, PE, CEM  
Project Manager  
CEM #2125, Exp. 10/18/2011

## **ENVIRONMENTAL CERTIFICATION JURAT**

*Jurat: I hereby certify that I am responsible for the services described in this document and for the preparation of this document. The services described in this document have been provided in a manner consistent with the current standards of the profession and to the best of my knowledge comply with all applicable federal, state and local statutes, regulations and ordinances. I hereby certify that all laboratory analytical data was generated by a laboratory certified by the NDEP for each constituent and media presented herein.*

Enclosures



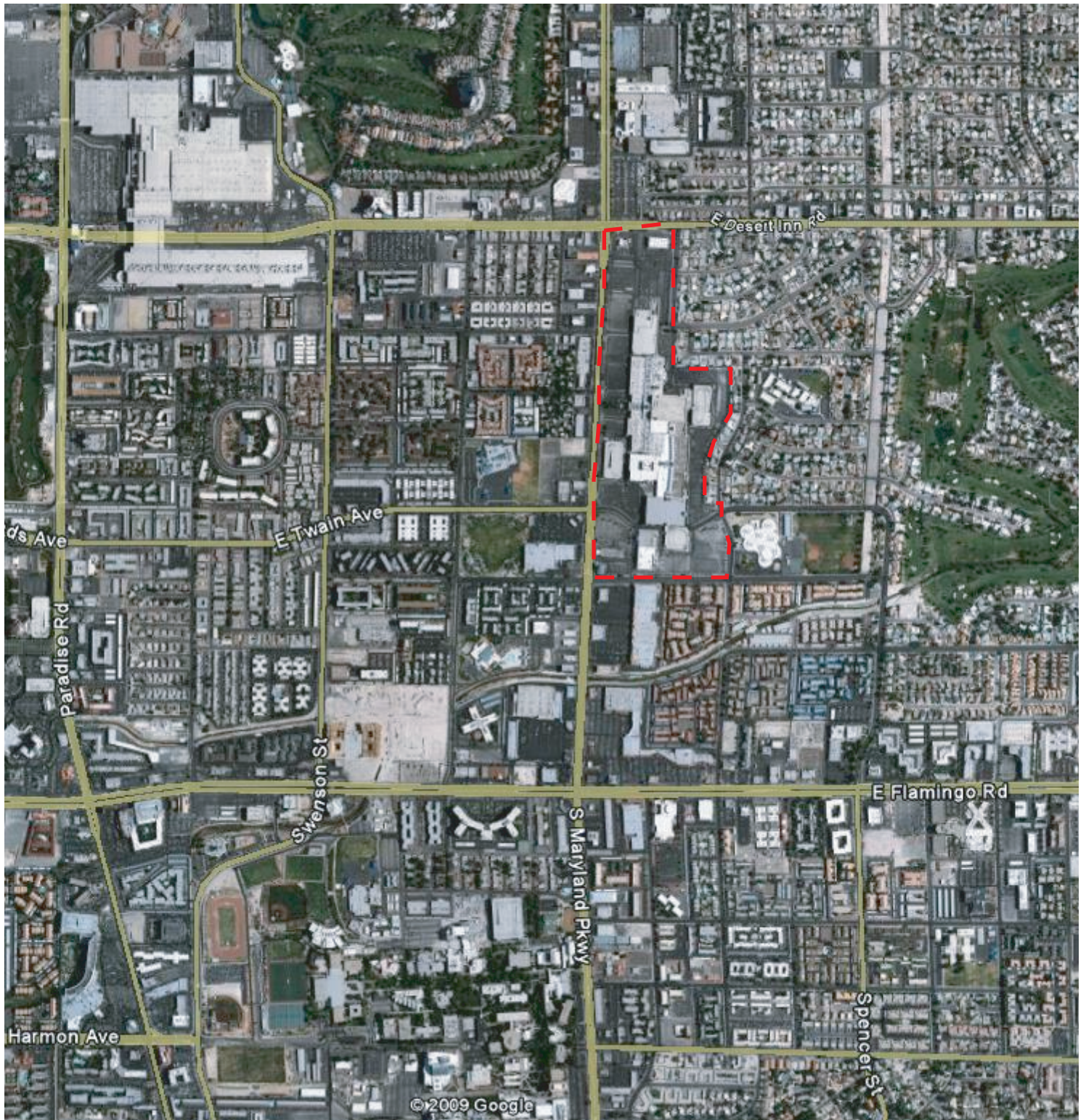


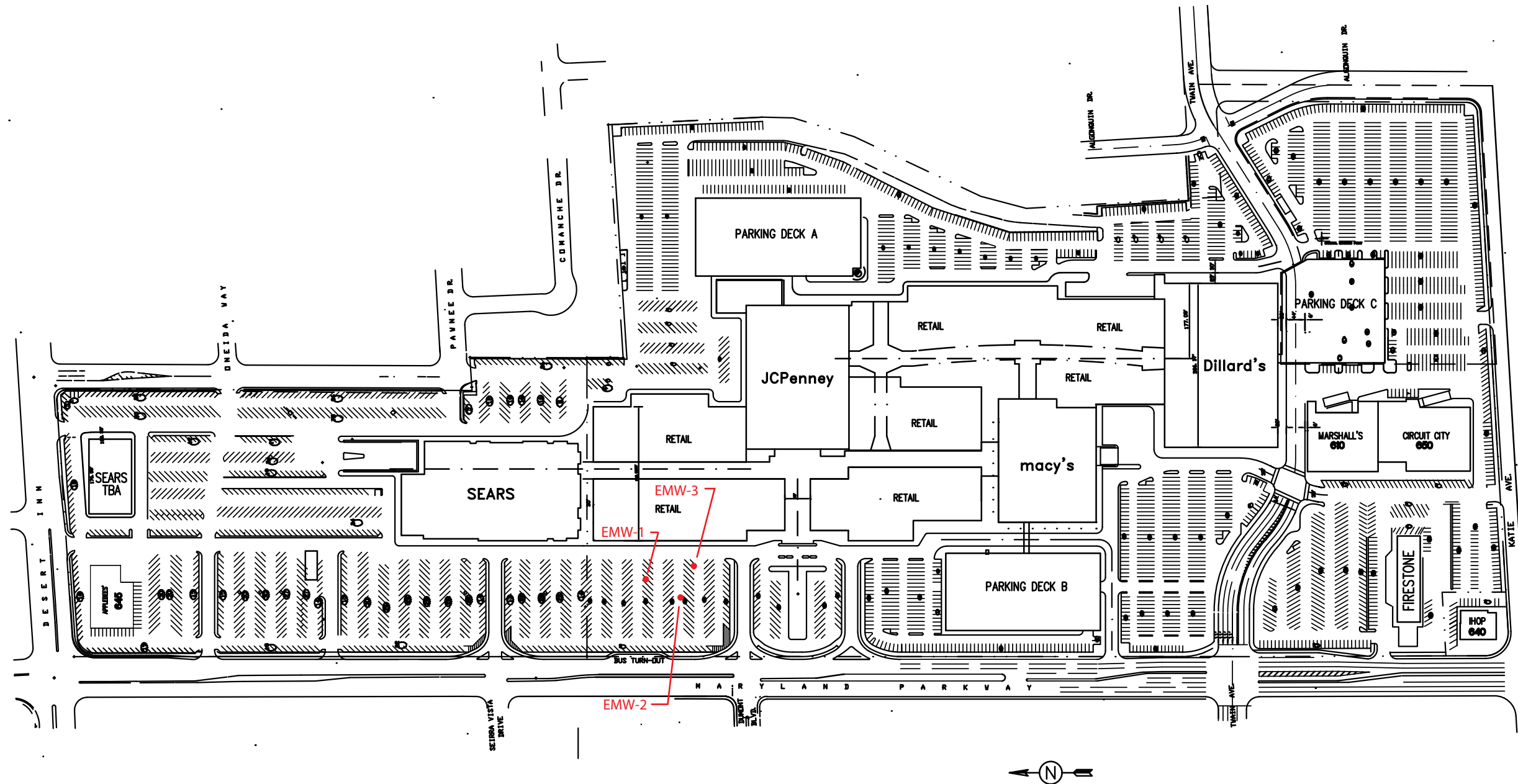
Figure 1: Site Location Map  
The Boulevard Mall  
3528 South Maryland Parkway  
Las Vegas, NV 89109



Property Boundary

Date : 12/08/2009  
Project Number: 173006





**Figure 2: Groundwater Monitoring Wells Location Map**  
**The Boulevard Mall**  
**3528 South Maryland Parkway**  
**Las Vegas, NV 89109**

**Explanation:**

- EMW-3 Well Designation
- Well Location

Date : 12/08/2009  
 Project Number: 173006

Table 1: Groundwater Quality, The Boulevard Mall, Las Vegas, Nevada (November 2009).

| Well<br>Designation | Volatile Organic Compounds<br>(USEPA Method 8260B) |                                    |                             |                      | Field Parameters |                                     |                     |                               |  | Fluid Levels and Total<br>Depth of Well |                               |
|---------------------|--|------------------------------------|-----------------------------|----------------------|------------------|-------------------------------------|---------------------|-------------------------------|--|---|-------------------------------|
|                     | Tetrachloroethene<br>(PCE)<br>(ug/L)               | Trichloroethene<br>(TCE)<br>(ug/L) | Vinyl<br>Chloride<br>(ug/L) | All Others<br>(ug/L) | pH               | Specific<br>Conductivity<br>(uS/cm) | Temperature<br>(°C) | Dissolved<br>Oxygen<br>(mg/l) | Oxidation<br>Reduction Potential<br>(mV) | Total Depth<br>(ft-bgs)                 | Depth to<br>Water<br>(ft-bgs) |
| EMW-1               | NS   | NS                                 | NS                          | NS                   | NS               | NS                                  | NS                  | NS                            | NS                                       | 16.58                                   | Dry                           |
| EMW-2               | ND (5)   | ND (5)                             | ND (5)                      | ND (5)               | 7.03             | 3630                                | 13.5                | 0.2                           | 249                                      | 24.47                                   | 20.67                         |
| EMW-3               | NS   | NS                                 | NS                          | NS                   | NS               | NS                                  | NS                  | NS                            | NS                                       | 17.00                                   | Dry                           |

Notes:

NS - Not sampled; well was dry.

ND (5) - Not detected at reporting limit indicated.

ft-bgs - feet below ground surface

uS/cm - MicroSiemens per centimeter

°C - Degree Celsius

mg/l - milligrams per liter

mV - millivolts

ATTACHMENT 1  
GROUNDWATER QUALITY MONITORING  
LABORATORY ANALYTICAL REPORT



6245 Harrison Drive, Suite 4, Las Vegas, NV 89120

(702) 321-8315 Phone

(702) 597-2098 Fax

Email: veritaslabs@msn.com

CLIENT NAME: TRC Solutions  
8395 West Sunset Rd., Suite 190  
Las Vegas, NV 89113

PROJECT MGR: Jo Wang

CLIENT PROJECT NAME: **GGP-Boulevard Mall**  
CLIENT PROJECT NUMBER: 173006

VERITAS LAB ORDER ID: V0911030  
DATE RECEIVED AT LAB: 11/13/09

Presented herein are the analytical results for samples received from the above referenced project.

Samples submitted for this project were not sampled by Veritas Laboratories. Unless otherwise noted, samples were received by Veritas Laboratories under a chain of custody in good condition, properly preserved, and within hold time for the requested analyses.

*All laboratory analytical data presented herein was generated by a laboratory certified by the Nevada Division of Environmental Protection for each constituent and media reported for which a certification is required and offered.*

Should you have any questions or comments, please feel free to contact me at (702) 321-8315.

**General Comments:**

None

**Some Sample and/or QA results have been flagged as follows:**

None

11/19/09

Bruce G. Cunningham  
Veritas Laboratories  
Nevada Lab ID NV00918

Date



CLIENT COMPANY NAME: TRC Solutions  
CLIENT PROJECT NAME: GGP-Boulevard Mall  
CLIENT PROJECT NUMBER: 173006

CLIENT SAMPLE ID: EMW2-1109  
DATE SAMPLED: 11/13/09  
VERITAS SAMPLE ID: V0911030-01

**METHOD:** Volatile Organic Compounds by EPA 8260B, GC/MS

**MATRIX:** Groundwater

**DATE(S) ANALYZED:** 11/18/09

| PARAMETER                          | RESULT | RL (PQL) |    | PARAMETER                         | RESULT | RL (PQL) |    |
|------------------------------------|--------|----------|----|-----------------------------------|--------|----------|----|
|                                    | µg/L   | µg/L     | DF |                                   | µg/L   | µg/L     | DF |
| Benzene                            | ND     | 5.0      | 1  | Ethylbenzene                      | ND     | 5.0      | 1  |
| Bromobenzene                       | ND     | 5.0      | 1  | Hexachlorobutadiene               | ND     | 5.0      | 1  |
| Bromodichloromethane               | ND     | 5.0      | 1  | Isopropylbenzene                  | ND     | 5.0      | 1  |
| Bromoform                          | ND     | 5.0      | 1  | 4-Isopropyltoluene                | ND     | 5.0      | 1  |
| Bromomethane                       | ND     | 5.0      | 1  | Methylene chloride (DCM)          | ND     | 5.0      | 1  |
| n-Butylbenzene                     | ND     | 5.0      | 1  | Naphthalene                       | ND     | 5.0      | 1  |
| sec-Butylbenzene                   | ND     | 5.0      | 1  | n-Propylbenzene                   | ND     | 5.0      | 1  |
| tert-Butylbenzene                  | ND     | 5.0      | 1  | Styrene                           | ND     | 5.0      | 1  |
| Carbon tetrachloride               | ND     | 5.0      | 1  | 1,1,1,2-Tetrachloroethane         | ND     | 5.0      | 1  |
| Chlorobenzene                      | ND     | 5.0      | 1  | 1,1,2,2-Tetrachloroethane         | ND     | 5.0      | 1  |
| Chloroethane                       | ND     | 5.0      | 1  | Tetrachloroethene (PCE)           | ND     | 5.0      | 1  |
| Chloroform                         | ND     | 5.0      | 1  | Toluene                           | ND     | 5.0      | 1  |
| Chloromethane                      | ND     | 5.0      | 1  | 1,2,3-Trichlorobenzene            | ND     | 5.0      | 1  |
| 2-Chlorotoluene                    | ND     | 5.0      | 1  | 1,2,4-Trichlorobenzene            | ND     | 5.0      | 1  |
| 4-Chlorotoluene                    | ND     | 5.0      | 1  | 1,1,1-Trichloroethane (1,1,1-TCA) | ND     | 5.0      | 1  |
| 1,2-Dibromo-3-chloropropane (DBCP) | ND     | 5.0      | 1  | 1,1,2-Trichloroethane (1,1,2-TCA) | ND     | 5.0      | 1  |
| Dibromochloromethane               | ND     | 5.0      | 1  | Trichloroethene (TCE)             | ND     | 5.0      | 1  |
| 1,2-Dibromoethane (EDB)            | ND     | 5.0      | 1  | Trichlorofluoromethane (Freon11)  | ND     | 5.0      | 1  |
| Dibromomethane                     | ND     | 5.0      | 1  | 1,2,3-Trichloropropane            | ND     | 5.0      | 1  |
| 1,2-Dichlorobenzene (o-DCB)        | ND     | 5.0      | 1  | 1,2,4-Trimethylbenzene            | ND     | 5.0      | 1  |
| 1,3-Dichlorobenzene (m-DCB)        | ND     | 5.0      | 1  | 1,3,5-Trimethylbenzene            | ND     | 5.0      | 1  |
| 1,4-Dichlorobenzene (p-DCB)        | ND     | 5.0      | 1  | Vinyl chloride                    | ND     | 5.0      | 1  |
| Dichlorodifluoromethane (Freon 12) | ND     | 5.0      | 1  | m,p-Xylene                        | ND     | 10       | 1  |
| 1,1-Dichloroethane (1,1-DCA)       | ND     | 5.0      | 1  | o-Xylene                          | ND     | 5.0      | 1  |
| 1,2-Dichloroethane (1,2-DCA)       | ND     | 5.0      | 1  | MTBE                              | ND     | 5.0      | 1  |
| 1,1-Dichloroethene (1,1-DCE)       | ND     | 5.0      | 1  |                                   |        |          |    |
| cis-1,2-Dichloroethene             | ND     | 5.0      | 1  |                                   |        |          |    |
| trans-1,2-Dichloroethene           | ND     | 5.0      | 1  |                                   |        |          |    |
| 1,2-Dichloropropane                | ND     | 5.0      | 1  |                                   |        |          |    |
| 1,3-Dichloropropane                | ND     | 5.0      | 1  |                                   |        |          |    |
| 2,2-Dichloropropane                | ND     | 5.0      | 1  |                                   |        |          |    |
| 1,1-Dichloropropene                | ND     | 5.0      | 1  |                                   |        |          |    |

**QUALITY CONTROL DATA:**

| Surrogate             | % Recovery | Acceptable Range |
|-----------------------|------------|------------------|
| Dibromofluoromethane  | 85         | 70-130%          |
| 1,2-Dichloroethane-d4 | 74         | 70-130%          |
| Toluene-d8            | 90         | 70-130%          |
| 4-Bromofluorobenzene  | 95         | 70-130%          |

RL-Reporting Limit (Practical Quantitation Limit)

DF-Dilution Factor

ND - Not Detected at Indicated Reporting Limit (PQL).

CLIENT COMPANY NAME: TRC Solutions  
CLIENT PROJECT NAME: GGP-Boulevard Mall  
CLIENT PROJECT NUMBER: 173006

CLIENT SAMPLE ID: **METHOD BLANK**  
DATE SAMPLED: NA  
VERITAS SAMPLE ID: VBLK091118-08

**METHOD:** Volatile Organic Compounds by EPA 8260B, GC/MS

**MATRIX:** Groundwater

**DATE(S) ANALYZED:** 11/18/09

| PARAMETER                          | RESULT<br>µg/L | RL (PQL)<br>µg/L | DF | PARAMETER                         | RESULT<br>µg/L | RL (PQL)<br>µg/L | DF |
|------------------------------------|----------------|------------------|----|-----------------------------------|----------------|------------------|----|
| Benzene                            | ND             | 5.0              | 1  | Ethylbenzene                      | ND             | 5.0              | 1  |
| Bromobenzene                       | ND             | 5.0              | 1  | Hexachlorobutadiene               | ND             | 5.0              | 1  |
| Bromodichloromethane               | ND             | 5.0              | 1  | Isopropylbenzene                  | ND             | 5.0              | 1  |
| Bromoform                          | ND             | 5.0              | 1  | 4-Isopropyltoluene                | ND             | 5.0              | 1  |
| Bromomethane                       | ND             | 5.0              | 1  | Methylene chloride (DCM)          | ND             | 5.0              | 1  |
| n-Butylbenzene                     | ND             | 5.0              | 1  | Naphthalene                       | ND             | 5.0              | 1  |
| sec-Butylbenzene                   | ND             | 5.0              | 1  | n-Propylbenzene                   | ND             | 5.0              | 1  |
| tert-Butylbenzene                  | ND             | 5.0              | 1  | Styrene                           | ND             | 5.0              | 1  |
| Carbon tetrachloride               | ND             | 5.0              | 1  | 1,1,1,2-Tetrachloroethane         | ND             | 5.0              | 1  |
| Chlorobenzene                      | ND             | 5.0              | 1  | 1,1,2,2-Tetrachloroethane         | ND             | 5.0              | 1  |
| Chloroethane                       | ND             | 5.0              | 1  | Tetrachloroethene (PCE)           | ND             | 5.0              | 1  |
| Chloroform                         | ND             | 5.0              | 1  | Toluene                           | ND             | 5.0              | 1  |
| Chloromethane                      | ND             | 5.0              | 1  | 1,2,3-Trichlorobenzene            | ND             | 5.0              | 1  |
| 2-Chlorotoluene                    | ND             | 5.0              | 1  | 1,2,4-Trichlorobenzene            | ND             | 5.0              | 1  |
| 4-Chlorotoluene                    | ND             | 5.0              | 1  | 1,1,1-Trichloroethane (1,1,1-TCA) | ND             | 5.0              | 1  |
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| Dibromochloromethane               | ND             | 5.0              | 1  | Trichloroethene (TCE)             | ND             | 5.0              | 1  |
| 1,2-Dibromoethane (EDB)            | ND             | 5.0              | 1  | Trichlorofluoromethane (Freon11)  | ND             | 5.0              | 1  |
| Dibromomethane                     | ND             | 5.0              | 1  | 1,2,3-Trichloropropane            | ND             | 5.0              | 1  |
| 1,2-Dichlorobenzene (o-DCB)        | ND             | 5.0              | 1  | 1,2,4-Trimethylbenzene            | ND             | 5.0              | 1  |
| 1,3-Dichlorobenzene (m-DCB)        | ND             | 5.0              | 1  | 1,3,5-Trimethylbenzene            | ND             | 5.0              | 1  |
| 1,4-Dichlorobenzene (p-DCB)        | ND             | 5.0              | 1  | Vinyl chloride                    | ND             | 5.0              | 1  |
| Dichlorodifluoromethane (Freon 12) | ND             | 5.0              | 1  | m,p-Xylene                        | ND             | 10               | 1  |
| 1,1-Dichloroethane (1,1-DCA)       | ND             | 5.0              | 1  | o-Xylene                          | ND             | 5.0              | 1  |
| 1,2-Dichloroethane (1,2-DCA)       | ND             | 5.0              | 1  | MTBE                              | ND             | 5.0              | 1  |
| 1,1-Dichloroethene (1,1-DCE)       | ND             | 5.0              | 1  |                                   |                |                  |    |
| cis-1,2-Dichloroethene             | ND             | 5.0              | 1  |                                   |                |                  |    |
| trans-1,2-Dichloroethene           | ND             | 5.0              | 1  |                                   |                |                  |    |
| 1,2-Dichloropropane                | ND             | 5.0              | 1  |                                   |                |                  |    |
| 1,3-Dichloropropane                | ND             | 5.0              | 1  |                                   |                |                  |    |
| 2,2-Dichloropropane                | ND             | 5.0              | 1  |                                   |                |                  |    |
| 1,1-Dichloropropene                | ND             | 5.0              | 1  |                                   |                |                  |    |

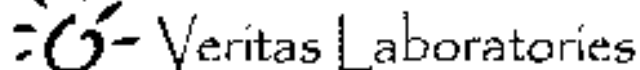
**QUALITY CONTROL DATA:**

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RL-Reporting Limit (Practical Quantitation Limit)

DF-Dilution Factor

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Veritas Lab Order ID:

V0911030

|  |  |
|--|--|
| Company: <u>TRC SOLUTIONS</u>          | Telephone: <u>(702) 295-6415</u>       |
| Address: <u>1009 Whitney Ranch Dr.</u> | Fax: _____                             |
| <u>Henderson NV 89014</u>              | Email: <u>JYUANG@TRC SOLUTIONS.COM</u> |
| Attention: <u>J. Yuang</u>             | Project Name/Project Number: _____     |
| Invoice To: <u>Lee Lapman</u>          | <u>GGP - BOULDER MALL</u>              |
| Sampled By: <u>GA</u>                  | P.O. Number: <u>173006</u>             |

|                 |  |  |  |  |  |  |
|-----------------|--|--|--|--|--|--|
| W               |  |  |  |  |  | Total # of Containers  |
| H               |  |  |  |  |  | Preservation Code <sup>2</sup>   |
| C               |  |  |  |  |  | Container Code <sup>3</sup>  |
| DO - Full Suite |  |  |  |  |  | <p><b>For Drinking Water Compliance Only:</b><br/>         Sampler attests to authenticity and validity of information on this Chain of Custody (initial).</p> <p>Falsification of information on this Chain of Custody may be considered fraud.</p> |

[illegible]

| Relinquished by: (Signature) | Date/Time:     | Turnaround Time:   | Matrix Code  | Preservation Code  | Container Code   | For Lab Use Only   |
|------------------------------|----------------|--|--|--|--|--|
| <i>Edwin Wady</i>            | 11/13/09 12:55 | <input type="checkbox"/> Same Day<br><input type="checkbox"/> 1 Day<br><input type="checkbox"/> 2 Days<br><input type="checkbox"/> 3 Days<br><input checked="" type="checkbox"/> 5 Days (Normal)<br><input type="checkbox"/> Other | GW=Groundwater<br>WW=Wastewater<br>DW=Drinking Water<br>S=Soil/Solid<br>SL=Sludge<br>OL=Organic Liquid<br>A=Air<br>W=Wipe<br>O=Other | I=Isol<br>H=HCL<br>N=HNO <sub>3</sub><br>S=H <sub>2</sub> SO <sub>4</sub><br>X=NaOH<br>T=Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub><br>Z=ZnAc<br>NO=None<br>O=Other | A=Amber<br>G=Glass<br>P=Plastic<br>ST=Sterile<br>V=VOA Vial<br>T=Tedlar Bag<br>W=Wipe<br>O=Other | Received in Good Condition?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Custody Seals?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Temperature<br>19°C |
| <i>B. C. [Signature]</i>     | 11/13/09 1:55  |  |  |  |  |  |
| <i>[Signature]</i>           |                |  |  |  |  |  |
| <i>[Signature]</i>           |                | 11/20/09<br>Date Needed  |  |  |  |  |

By Signing this Chain of Custody, the Client Agrees to Veritas Laboratories' Published Standard Terms and Conditions

## CHAIN OF CUSTODY

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